

## **REMARKS**

The applicant appreciates the detail set forth in the Office Action to assist the applicant in amending the claims in order to obtain allowance. Currently, claims 1-3, 5-23 and 25-32 are pending. Claims 4 and 24 have been canceled without prejudice or disclaimer. Claims 1, 2, 5-8, 13, 16, 17, 20, 22, 25-27, 30 and 32 have been amended herein. The applicant submits that all amendments to the claim are supported by the specification as originally filed. Thus, no new matter has been added. Entry of the foregoing amendments is respectfully requested.

### ***Claim Rejections – 35 USC 112***

Claims 1-3 and 5-32 have been rejected under 35 USC 112, second paragraph, as being “indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.” The applicant has amended the claims in order to overcome the rejections under Section 112. The applicant respectfully requests reconsideration of the rejections.

### ***Claim Rejections – 35 USC 103***

Claims 22-31 have been rejected under 35 USC 102(b) as being anticipated by or, alternatively, under 35 USC 103(a) as being unpatentable over Burgert et al. (5,629,377). The applicant respectfully submits that Burgert et al. neither teaches

nor suggests the claimed invention and that claim 22 and the claims depending therefrom are indeed allowable. Reconsideration is respectfully requested.

In order to maintain a rejection under 35 USC 102(b), the cited reference must contain each and every element of the claimed invention. In addition, when a rejection is based on Section 103(a), the Examiner must set forth a *prime facie* case of obviousness. As set forth in the Office Action, "In product by process claims, 'once a product appearing to be substantially identical is found and a 35 U.S.C. 102/103 rejection has been made, the burden shifts to the applicant to show an unobvious difference.'" The applicant submits that the product described in Burgert et al. is not "substantially identical" to the claimed product in order for a rejection under 35 USC 103(a) to be applicable. Indeed, the product disclosed in Burgert et al. is substantially different than the claimed polymer of the instant invention. The Applicant respectfully requests reconsideration of the rejection.

Bergurt et al. relates to water-absorbent particles of crosslinked carboxylcontaining polymers which have both high absorption capacity and high absorption capacity under load. The resin particles comprise crosslinked carboxycontaining polymers prepared with an oxidizing agent, typically a chlorine or bromine containing oxidizing agent that are heated in the substantially dry state to achieve the desired properties (col. 4, lines 11 - 17). The unique properties of the resin result from the combination of heat-treatment and a substantially uniform distribution of the oxidizing agent prior to heat - treatment (col. 4, lines 28 - 31). The preferred unsaturated carboxylic acid used as starting material is acrylic acid or a

salt thereof (col. 5, lines 11 - 13). The water-absorbent resin particles of Burgert et al. are mixed into or attached to a structure of absorbent material such as synthetic or natural fibers or paper based woven or non-woven fibers (col. 13, lines 46 - 50). For the preparation of the water-absorbent resin particle, 70 to 99.9 weight percent of one or more ethylenically unsaturated carboxyl containing monomers, 0.1 to 5 weight percent of a crosslinking agent and 0 to 25 weight percent of one or more comonomers copolymerizable with the carboxyl containing monomer are heated to a temperature from 170 degrees C to 250 degrees C in an inert atmosphere in the presence of 10 to 2000 ppm of a chlorine or bromine containing oxidizing agent wherein the oxidizing agent has been substantially uniformly distributed within the resin particle prior to heating (claim 1).

In contrast to Burgert et al. the presently claimed invention provides for production of high-molecular water-soluble polymers - as opposed to Burgert et al. which teaches production of water absorbent resins. According to the present invention copolymerization and destruction (modification) of the polymers are performed 'in situ' by means of a single agent, which simultaneously executes the function of the initiator and modifier molecule. Such agents are oxygen containing compounds of halogen compounds, EHaO, EHaO<sub>2</sub>, EHaO<sub>3</sub>, EHaO<sub>4</sub>. The starting material in Burgert et al. is monomeric polyacrylic acid. The starting material according to the present invention is already a superabsorbent based polyacrylic acid, i.e. the end product of the process of Burgert et al. The chlorates, bromates and other compounds in Burgert et al. are used only for partial oxidation of the

starting material in the polymerization process. Their use is clearly limited since the desired properties of the water adsorbing resin would become worse if an excess or shortfall of the oxidizing agent were used. As initiator molecules of the polymerization reaction in Burgert et al., peroxygen compounds such as sodium, potassium and ammonium persulfates, caprylyl peroxide, benzoyl peroxide, hydrogen peroxide, cumene hydroperoxide, tertiary butyl diperphthalate, tertiary butyl perbenzoate, sodium peracetate and sodium percarbonate are used. In contrast thereto and according to the present invention oxygen-containing compounds of halogens EHaO, EHaO<sub>2</sub>, EHaO<sub>3</sub>, EHaO<sub>4</sub> are used. These compounds act first as initiator molecules of the block-copolymerization at temperatures between 0 and 50 degrees C and second as destructor molecules of the intermediately formed macroaggregates at elevated temperatures.

Accordingly, the Applicant submits that Burgert et al. fails to teach or suggest the claimed invention. Further, Burgert et al. actually teaches away from the present invention as Burgert et al. sets forth a method for producing water-absorbent (i.e., water-insoluble) polymers, whereas the presently claimed invention is directed to water-soluble high molecular mass polymers. Thus, both the starting materials and end products are substantially different. Reconsideration of the rejection is respectfully requested.

### CONCLUSION

The Applicant requests that the amended claims be allowed. Any unpaid fees associated with this Amendment may be charged to deposit account 50-0881. The Examiner is encouraged to contact the undersigned attorney directly if further action in this case can be expeditiously resolved.

Respectfully submitted,



Frank W. Compagni  
Registration No. 40,567  
Attorney for Applicant  
MORRISS O'BRYANT COMPAGNI, P.C.  
734 East 200 South  
Salt Lake City, Utah 84102  
Telephone: (801) 478-0071  
Facsimile: (801) 478-0076

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